

Claims

1. A method for storing unprepared and prepared rolls of material of a material-processing machine in a depot (21), characterized in that a material flow system (05) with an implemented logic device is provided with information regarding a prognosis of use data for a pending production period or use data derived by prognosis, and that in a partial process a storage strategy is determined on the basis of the use data obtained by prognosis and the actual stock on hand, that the determination of the storage strategy takes place in that criteria for the degree of the storage use to be expected in the production period to be examined are taken into consideration.

2. A method for storing unprepared and prepared rolls of material of a material-processing machine in a depot (21), characterized in that a material flow system (05) with an implemented logic device is provided with information regarding a prognosis of use data for a pending production period or use data derived by prognosis, and that in a partial process a storage strategy is determined on the basis of the use data obtained by prognosis and the actual stock on hand, that the determination of the storage strategy takes place in that criteria for the intended length of storage time of fresh rolls of material during the production period to be examined are taken into consideration.

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3. The method in accordance with claim 2, characterized in that the determination of the storage strategy takes place in that criteria for the degree of the storage use to be expected in the production period to be examined are taken into consideration.

4. The method in accordance with claim 1, characterized in that the fixation of the storage strategy takes place by taking into consideration criteria for the intended length of storage time of fresh rolls of material during the production period to be examined.

5. A method for storing unprepared and prepared rolls of material of a material-processing machine in a depot (21), characterized in that a material flow system (05) with an implemented logic device is provided with information regarding a prognosis of use data for a pending production period or use data derived by prognosis, and that in a partial process a storage strategy is determined on the basis of the use data obtained by prognosis and the actual stock on hand, that the determination of the storage strategy takes place by taking into consideration the effectiveness of a glue preparation and the planned production period.

6. The method in accordance with claim 1 or 3, characterized in that the criteria for the degree of the storage use to be expected are taken into consideration in such a way that in case of a reduced storage use a shelf block (22) remote from the press is utilized only for unprepared rolls, a shelf block (23) close to the press is used for prepared rolls, and an inner shelf block (24) located between them is kept empty to a large extent except for the passage of rolls.

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7. The method in accordance with claim 1 or 3, characterized in that the criteria for the degree of the storage use to be expected are taken into consideration in such a way that in case of a normal and or high storage use a shelf block (22) remote from the press is utilized only for unprepared rolls, a shelf block (23) close to the press is used only for prepared rolls, and an inner shelf block (24) located between them is used as a buffer for unprepared and prepared rolls.

8. The method in accordance with claim 1, characterized in that in the course of the determination criteria are additionally considered regarding the type needed in view of the planned product spectrum in the production time period under consideration, wherein a differentiation is made in the type needed between many small productions following each other and a few large ones.

9. A method for storing unprepared and prepared rolls of material of a material-processing machine in a depot (21), characterized in that a material flow system (05) with an implemented logic device is provided with information regarding a prognosis of use data for a pending production period or use data derived by prognosis, and that in a partial process a storage strategy is determined on the basis of the use data obtained by prognosis and the actual stock on hand, that in the course of the determination criteria are additionally considered regarding the type needed in view of the planned product spectrum in the production time period under consideration, wherein a differentiation is made in the type needed between many small productions following each other and a few large ones.

10. The method in accordance with claim 8 or 9, characterized in that the type of requirement is taken into consideration in such a way that in case of many small productions sufficient spaces for the return of used rolls to the depot (21) must be reserved during the production period under consideration.

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11. The method in accordance with claim 8 or 9, characterized in that the type of requirement is taken into consideration in such a way that in case of a few larger productions the prepared rolls are stored in a travel-optimized manner during the production period under consideration.

12. The method in accordance with claim 1, 2, 5 or 9, characterized in that, in a partial process different from the first mentioned partial process, the depot occupancy is checked in regard to the planned needs in such a way that the prepared and unprepared rolls of material of the required roll types are positioned in a manner optimized for production, and a strategy for repositioning in a manner optimized for production of unprepared and prepared rolls within the depot (21) is determined in that criteria for the degree of the storage use to be expected are taken into consideration in the production period under consideration.

13. A method for storing unprepared and prepared rolls of material of a material-processing machine in a depot (21), wherein

- a material flow system (05) with an implemented logic device is provided with information regarding a prognosis of use data for a pending production period or use data derived by prognosis, and the material flow system (05) has or is provided with data regarding the actual stock on hand,

- in a partial process, the occupation of the depot (21) in the material flow system (05) is checked for the planned requirement in such a way that the prepared and unprepared rolls of material are positioned in a manner optimized for the production,

- and a strategy is determined for a production-oriented redepositioning of unprepared and prepared rolls inside the depot (21).

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14. The method in accordance with claim 13, characterized in that the strategy is determined for a production-oriented redepositioning in that criteria are provided for the extent of the depot occupancy in the production time period to be considered.

15. The method in accordance with claim 1, 3, 12 or 14, characterized in that the consideration of the extent of the depot occupancy to be expected takes place in such a way that with low occupancy the storage of the prepared rolls predominantly takes place in a path-optimized manner in consideration of a roll changer (06) to be served, and with high occupancy takes place predominantly chaotically over a length of the depot (21) acting together with active roll changers (06).

16. The method in accordance with claim 1, 2, 5, 9 or 13, characterized in that the unprepared and prepared rolls of material are stored in a depot (21) having an outer shelf block (22) remote from the press, an outer one (23) close to the press and an inner one (24) located between them.

17. The method in accordance with claim 16, characterized in that redepositioning of the rolls of material between the outer and inner shelf blocks (22, 24) remote from the press takes place by means of a serving element (30) remote from the press which is arranged between them, and the redepositioning of the rolls of material in the inner and the outer, close to the press shelf block (24, 23) takes place by means of a serving element (29) close to the press arranged between them.

18. The method in accordance with claim 16 or 17, characterized in that redepositioning takes place in such a way that the rolls required within a short time are already prepared

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and are at least located in the inner (24) or the outer shelf block (23) close to the press.

19. The method in accordance with claim 16 or 17, characterized in that the redepositioning of unprepared rolls of material for the preparation of rolls required in the medium period of time takes place in the access area of the serving element (29) remote from the press.

20. The method in accordance with claim 1, 2, 5, 9 or 13, characterized in that unprepared rolls are processed in a preparation circuit (35) of the depot (21).

21. The method in accordance with claim 19 and 20, characterized in that unprepared rolls of material are removed from the outer, remote from the press, or the inner shelf block (22, 24) by the serving element (29) and are supplied to the preparation circuit (35).

22. The method in accordance with claim 21, characterized in that following the preparation, these rolls of material are placed into intermediate storage in the inner shelf block (24).

23. The method in accordance with claim 16, characterized in that as a result of a storage demand by the first partial process a request for and storage of material rolls takes place at the outer, remote from the press, or the inner shelf block (22, 24).

24. The method in accordance with claim 16, characterized in that as a result of a storage demand by the second partial process a delivery of a prepared roll of material from the outer, close to the press, or the inner shelf block (23, 24) to a storage space (48) of the outer, close to the press, outer shelf block (23) takes place.

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25. The method in accordance with claim 2, 3 or 14, characterized in that a degree of occupation below 40% is understood to be low occupation.

26. The method in accordance with claim 2, 3 or 14, characterized in that a degree of occupation greater than 70% is understood to be high occupation.

27. The method in accordance with claim 1, 2, 5, 9 or 13, characterized in that the criteria are stored in the form of an exact, but changeable definition.

28. The method in accordance with claim 1, 2, 5, 9 or 13, characterized in that the criteria are stored in the form of a changeable term of a linguistic variable of a fuzzy logic control.

29. The method in accordance with claim 1, 2, 5 9 or 13, characterized in that production-relevant data, or use data regarding planned production of a production planning system (03) and/or of the press to be supplied are forwarded via a signal connection to a computing and/or data processing unit (17) of a material flow system (05).

30. The method in accordance with claim 29, characterized in that in a partial process the determination of a storage strategy and, depending on the requirements, a deposit request for fresh, unprepared rolls of material takes place by means of the computing and/or data processing unit (17) on the basis of transmitted prognostic use data for a pending production period and the actual stock on hand, and a time for the production preparation of the rolls of material in the preparation circuit (35) is fixed by means of a logical device implemented in the material supply system (05), taking into consideration a limited shelf life of the glue preparation and the planned length of

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production time.

31. The method in accordance with claim 29, characterized in that in a partial process requests regarding rolls of material of the press (01) are directed to the material flow system (05) via a signal connection, are registered in its computing and/or data processing unit (17), and are checked there on the basis of

existing data regarding the depot occupation for availability in the depot (21) and, in case of a positive result, an order for removal is placed in accordance with the request from the press (01), directly through the material flow system (05), or via a depot management system, with the serving elements (29, 30) of the depot (21).

32. The method in accordance with claim 29, characterized in that in a partial process the depot occupancy is checked by the material flow system (05) on the basis of transmitted production-relevant data regarding the planned requirements in such a way that the prepared and unprepared rolls of material of the required roll types are positioned optimized in regard to production, wherein in accordance with the planned requirements a strategy is determined for a production-oriented redepositioning of unprepared and prepared rolls within the depot (21) and performed.

33. The method in accordance with claim 1, 2, 5, 9, 30, 31 or 32, characterized in that the partial process is performed by a logical device implemented in the material supply system (05).

34. The method in accordance with claim 1, 2, 5 or 9, characterized in that prepared or unprepared rolls of material are selectively stored in storage spaces (27, 28) of the depot (21) wherein, in a continuously repeated process, the occupation of the depot is continuously checked in regard to the planned requirements by means of predeterminable criteria, which have an

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effect on the storage strategy, in such a way that the prepared and unprepared rolls of the different roll types are positioned in a production-optimized manner in the storage spaces (27, 28).

35. The method in accordance with claim 1, 2, 5 or 9, characterized in that prepared or unprepared rolls of material are selectively stored in storage spaces (27, 28) of the depot (21) wherein, in a continuously repeated process, the occupation of the

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depot is continuously checked in regard to the planned requirements by means of predeterminable criteria, which have an effect on the storage strategy, in such a way that the prepared and unprepared rolls of the different roll types are positioned in a production-optimized manner in the storage spaces (27, 28).

36. The method in accordance with claim 35, characterized in that in a partial process the determination of a storage strategy takes place by means of the prognosis of use data and the actual stock on hand.